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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/557,775 | 04/25/2000 | Tetsuya Ashida | PM 268172 | 9116 |

909 7590 04/16/2003

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| EXAMINER |
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HESS, BRUCE H

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| ART UNIT | PAPER NUMBER |
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1774

14

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/557,775

Applicant(s)

Ashida et al.

Examiner

Bruce Hess

Group Art Unit

1774

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 1-28-03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1, 2, 4, 6-12 and 14-17 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1, 2, 6-12 and 14-16 is/are rejected.
- ☒ Claim(s) 4 and 17 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

1. Claims 12 and 17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

2. Claims 1,2, 6-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of the patents to Saito et al. (U.S.P. 6,238,784).

These patents teach ink jet recording sheets which comprise water-resistant supports (e.g., polyolefin-coated paper) having an inks receptive layer which can contain synthetic silica prepared by a gas phase process having an average particle diameter of ≤ 20 nm (see Saito et al. at column 4, lines 44, 45, 56 and 57, column 5, lines 8-10 and 30-33 and column 9, lines 34, 35, 42 and 43; and Mochizuki et al. at the paragraph bridging columns 3 and 4; column 4, line 46, and column 7, lines 60-63) and polyvinyl alcohol. The silica particles are surface-treated with polyvalent cations (e.g., Al; see Saito et al. at column 4, lines 62-65 and Mochizuki et al. in the sentence bridging columns 3 and 4). Hence, a water-soluble polyvalent metal compound has been employed. A cross-linking boric acid or borate can also be employed by these patents. The experimental modification of this prior art in order to ascertain optimum operating conditions (e.g., determine compositional amounts and the BET of the silica particles) fails to render applicants' claims patentable in the absence of unexpected results.

3. Claims 1, 2, 4, 6-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of the patents to Kasahara et al. (U.S.P.

6,165,606) or Ohbayashi et al. (U.S.P. 6,436,515) in view of either of the patents Shaw-Klein et al. (U.S.P. 6,110,601) or Waller et al. (WO 99/03685)

The primary references teach ink jet recording sheets which comprise water-resistant supports (e.g., polyolefin-coated paper) having an ink receptive layer which can contain synthetic silica prepared by a gas phase process having an average particle diameter of ≤ 20 nm, polyvinyl alcohol and boric acid or a borate (see Kasahara et al. at column 4, lines 53-64, column 5, lines 29 and 30, column 8, lines 4 and 5, column 13, lines 28-31 and column 15, lines 18-20; and Ohbayashi et al. at column 2, lines 62-64, column 3, lines 22-24, column 8, lines 22-25, 42 and 43 and column 9, lines 1-5). As noted in the proceeding paragraph, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants claims patentable in the absence of unexpected results.

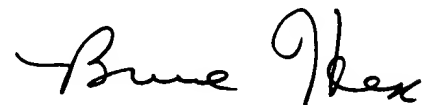
The secondary references teach the advantages (e.g., enhanced color rendition and vibrant, durable images) of employing water-soluble polyvalent metal compounds in the ink-receptive layer of ink jet recording sheets having water resistant supports (see Shaw-Klein et al. at column 4, lines 28-35 and Waller et al. at page 15, line 10 through page 16, line 9). Use of the water-soluble polyvalent metal compound of the secondary references for their concomitant function in the ink receptive layers of the primary references would

have been obvious to one of ordinary skill in this art in the absence of unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce Hess whose telephone number is (703) 308-2402. The examiner can normally be reached on Monday to Friday 9 Am to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7115 for regular communications and (703) 308-7115 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in cursive script that reads "Bruce Hess".

B. Hess/mn
April 15, 2003

BRUCE H. HESS
PRIMARY EXAMINER